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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jeong-Il Seo

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER

LEE, PING

ART UNIT

PAPER NUMBER

2615

MAIL DATE

DELIVERY MODE

06/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,632	Applicant(s) SEO ET AL.	
	Examiner Ping Lee	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Potard et al (hereafter Potard) ("Using XML Schemas to Create and Encode Interactive 3-D Audio Scenes for Multimedia and Virtual Reality Applications") in view of Pihkala et al (hereafter Pihkala) ("Proceedings of the 2003 International Conference on Auditory Display").

Regarding claims 1 and 9, Potard discloses a method and a data stream for generating a three-dimensional audio scene (see title) with a sound source whose spatiality is extended, comprising the steps of:

a) generating a sound object (macro-object) composing the audio scene; and
b) generating three-dimensional audio scene description information including sound source characteristics information for the sound object (see section 2.6), wherein the sound source characteristics information includes spatiality extension information of the sound source, said spatiality extension information enabling the sound source to include more than one dimension, and includes the size (how many times the macro-object being' copied) and shape (for example, the layout of the choir or the shape of the car defined by tyres and exhaust) of the sound source expressed in a three-dimensional space. See also Table 1 that the sound source is defined by spatial size and shape.

Regarding claim 5, Potard discloses a method for consuming a three-dimensional audio scene (see title) with a sound source whose spatiality is extended, comprising the steps of:

a) receiving (through WEB for example with full description of sound scenes; see section 1) a sound object composing the audio scene and three-dimensional audio scene description information including sound source characteristics information for the sound object (see section 3.1); and

b) outputting the sound object based on the three-dimensional audio scene description information ("3-D Sound" in Fig. 6),

wherein the sound source characteristics information includes spatiality extension information, said spatiality extension information enabling the sound source to

include more than one dimension, and includes the size and shape of the sound source expressed in a three- dimensional space (see rejection for claim 1).

Potard fails to show that the size of the sound source is determined by a difference of coordinates in the three-dimensional space from a center of the sound source represented by the spatiality extension information in claims 1, 5 and 9. Potard teaches that size and shape of the sound source would be defined by parameters, but fails to explicitly teach how to do so in terms of using the coordinates. Pihkala teaches that the size the sound source is determined by a difference of coordinates (“by adding front, back and depth attributes” in sect. 3.1) in the three-dimensional space from a center of the sound source represented by the spatiality extension information. Thus, it would have been obvious to one of ordinary skill in the art to modify Potard in view of Pihkala by defining the size of the sound source based on the difference of coordinates in order to provide a way to define the sound source having three dimensions.

Regarding claims 2, 3, 6, 7, 10, 11 and 13-15, Potard discloses that the spatiality extension information of the sound source includes sound source dimension information that is expressed as three components of a set of three-dimensional coordinates (section 2.5.2) with a geometrical center location information (original location).

Regarding claims 4, 8 and 12, Potard discloses that the spatiality extension information of the sound source further includes direction information of the sound source (for example the directivity of the macro-object defining choir) and describes a three-dimensional audio scene by extending the spatiality of the sound source in a

Art Unit: 2615

direction vertical to the direction of the sound source (by duplicating macro-object in a direction vertical to the direction of the directivity of the macro-object defining choir).

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application No. 11/796,808 (hereafter application ‘808) in view of Pihkala.

This is a provisional obviousness-type double patenting rejection.

Claims 1-15 of the present invention read on claims 1-10 of application ‘808 with the exception of the size of the sound source is determined by a difference of coordinates in the three-dimensional space from a center of the sound source represented by the

spatiality extension information. In the same field of endeavor, Pihkala teaches that the size the sound source is determined by a difference of coordinates (“by adding front, back and depth attributes” in sect. 3.1) in the three-dimensional space from a center of the sound source represented by the spatiality extension information (see Fig. 1). Thus, it would have been obvious to one of ordinary skill in the art to modify application ‘808 in view of Pihkala by defining the size of the sound source based on the difference of coordinates in order to provide a way to define the sound source having three dimensions.

Response to Arguments

6. Applicant's arguments with respect to claims 1, 5 and 9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

Art Unit: 2615

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522.

The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ping Lee/
Primary Examiner, Art Unit 2615

pwl